FIG.1

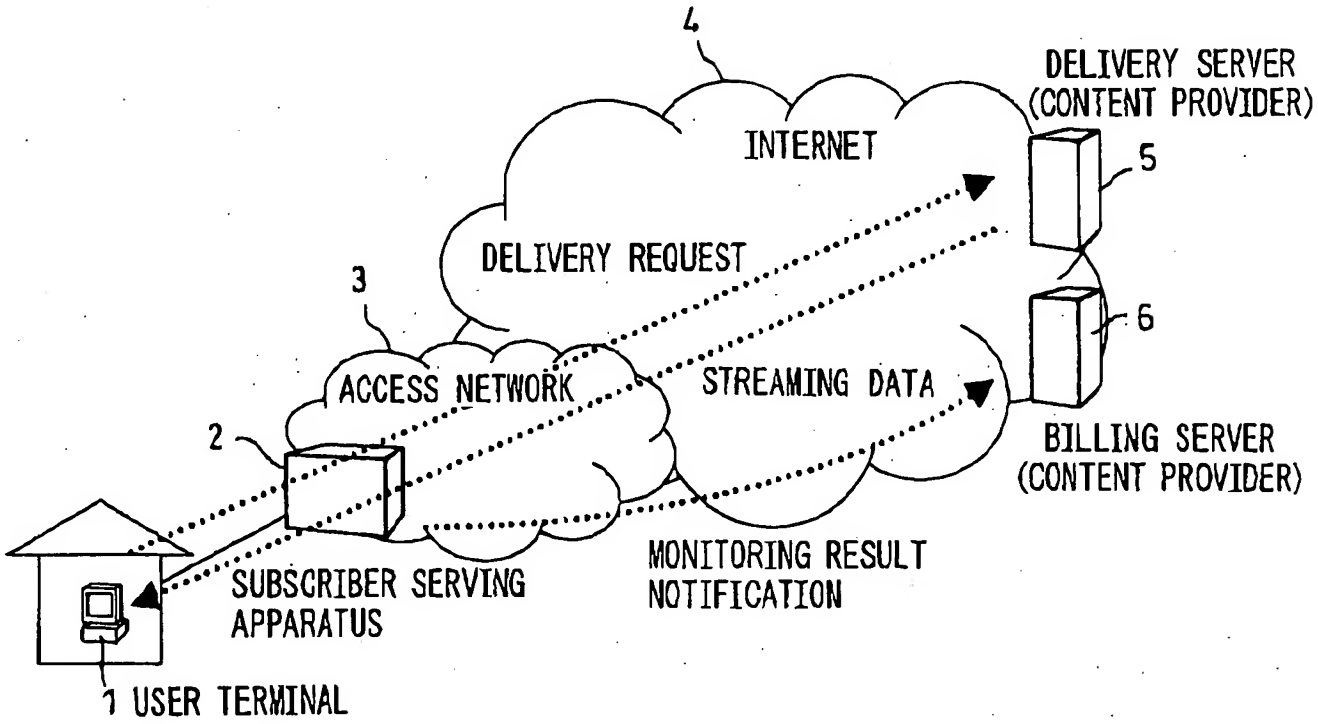

4
INTERNET
DELIVERY SERVER
(CONTENT PROVIDER)
5
DELIVERY REQUEST
3
ACCESS NETWORK
STREAMING DATA
6
2
BILLING SERVER
(CONTENT PROVIDER)
SUBSCRIBER SERVING
APPARATUS
MONITORING RESULT
NOTIFICATION
1 USER TERMINAL

FIG.2

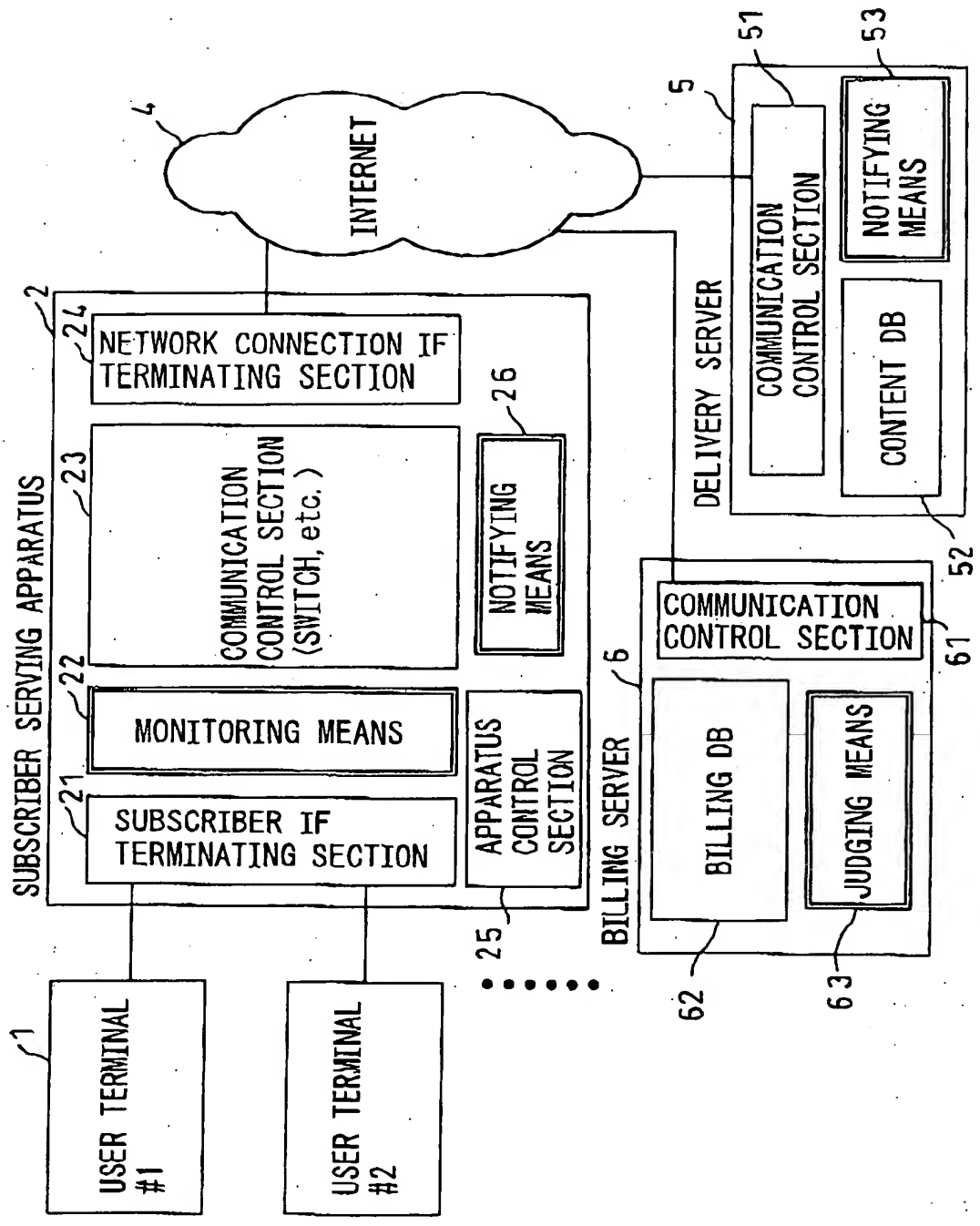

INTERNET
4
5
51
53
DELIVERY SERVER
COMMUNICATION CONTROL SECTION
NOTIFYING MEANS
CONTENT DB
52
2
24
NETWORK CONNECTION IF TERMINATING SECTION
26
23
COMMUNICATION CONTROL SECTION (SWITCH, etc.)
NOTIFYING MEANS
22
MONITORING MEANS
21
SUBSCRIBER IF TERMINATING SECTION
APPARATUS CONTROL SECTION
SUBSCRIBER SERVING APPARATUS
25
6
BILLING SERVER
COMMUNICATION CONTROL SECTION
61
BILLING DB
JUDGING MEANS
62
63
1
USER TERMINAL #1
USER TERMINAL #2

FIG.3

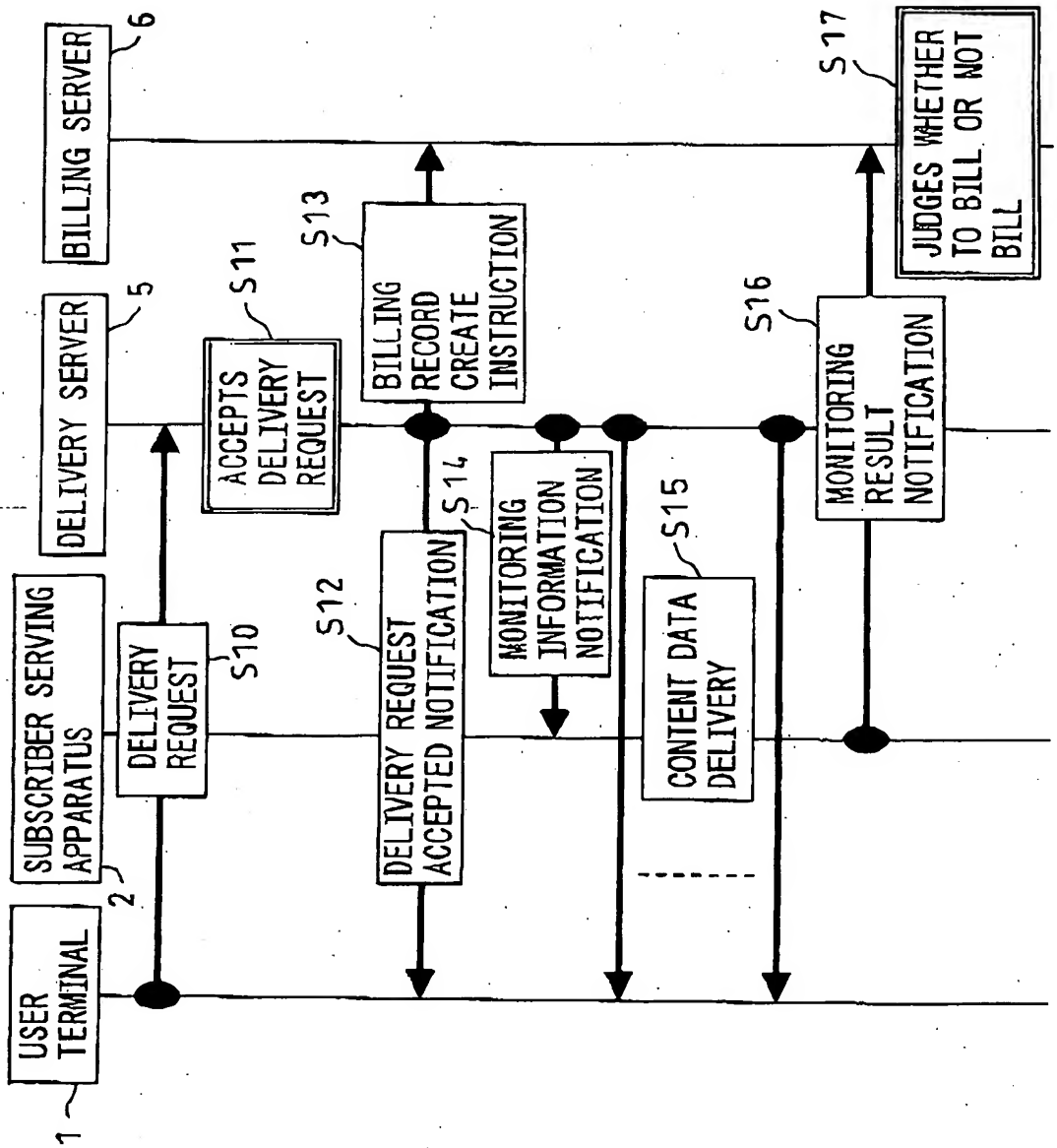

USER TERMINAL
1
SUBSCRIBER SERVING APPARATUS
2
DELIVERY SERVER
5
BILLING SERVER
6
DELIVERY REQUEST
S10
ACCEPTS DELIVERY REQUEST
S11
DELIVERY REQUEST ACCEPTED NOTIFICATION
S12
BILLING RECORD CREATE INSTRUCTION
S13
MONITORING INFORMATION NOTIFICATION
S14
CONTENT DATA DELIVERY
S15
MONITORING RESULT NOTIFICATION
S16
JUDGES WHETHER TO BILL OR NOT BILL
S17

FIG. 4

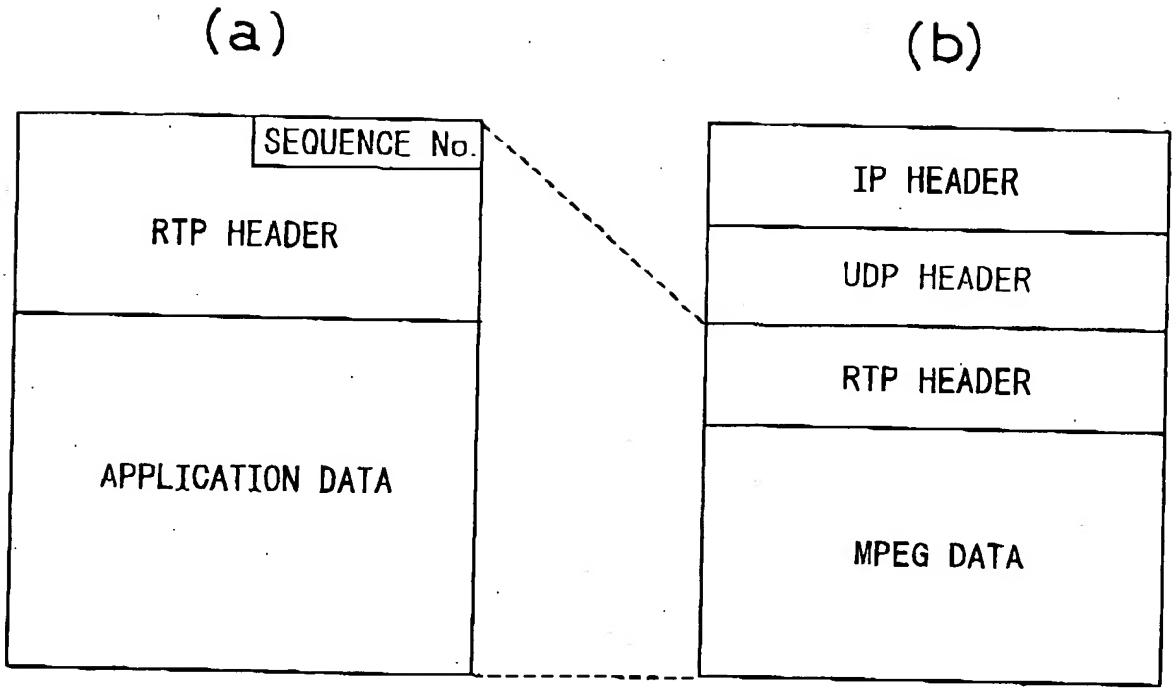

(a)
(b)
SEQUENCE No.
RTP HEADER
APPLICATION DATA
IP HEADER
UDP HEADER
RTP HEADER
MPEG DATA

FIG.5

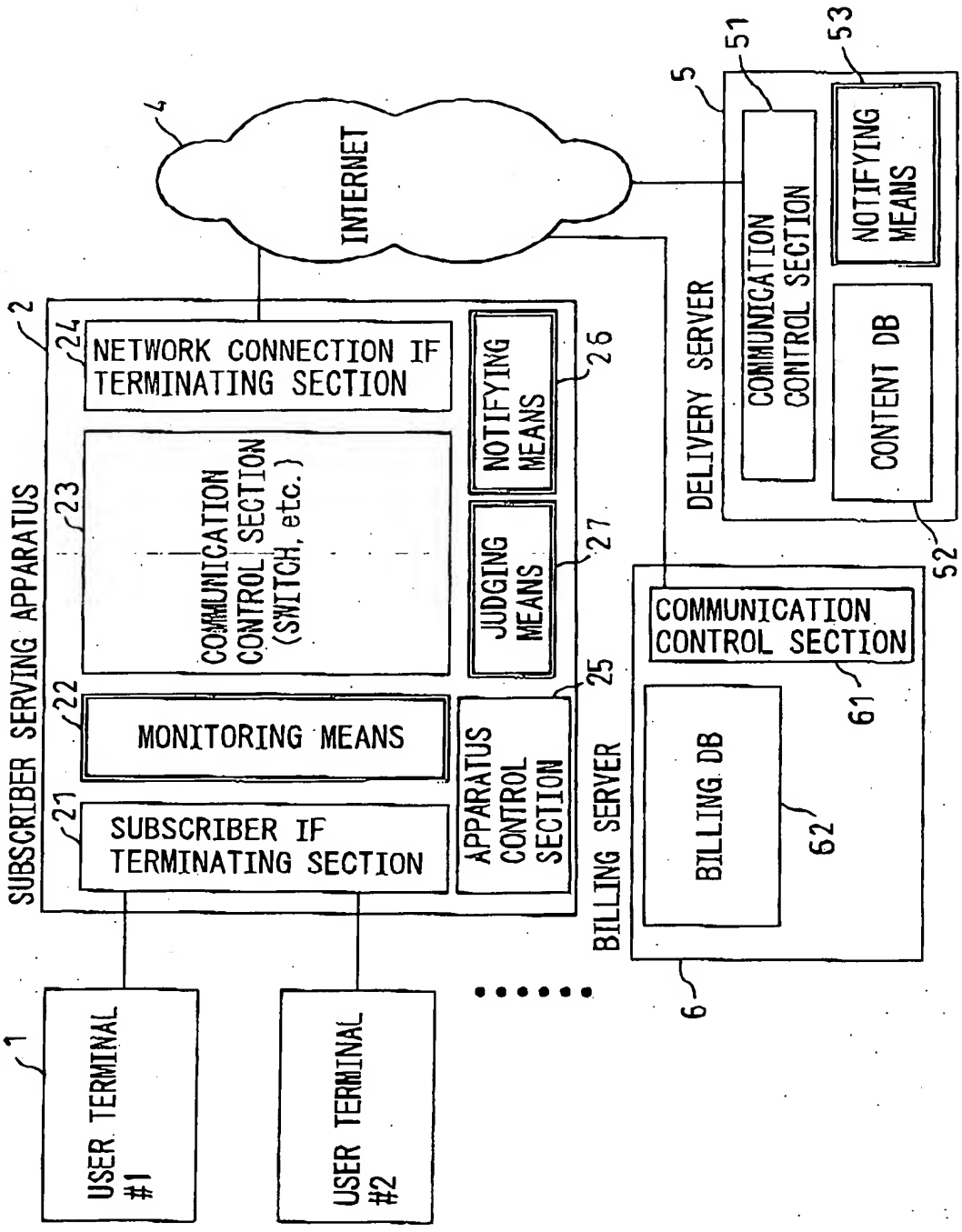

INTERNET
4
5
51
53
DELIVERY SERVER
COMMUNICATION CONTROL SECTION
NOTIFYING MEANS
CONTENT DB
52
2
SUBSCRIBER SERVING APPARATUS
24
NETWORK CONNECTION IF TERMINATING SECTION
23
COMMUNICATION CONTROL SECTION (SWITCH, etc.)
22
MONITORING MEANS
21
SUBSCRIBER IF TERMINATING SECTION
NOTIFYING MEANS
26
JUDGING MEANS
27
APPARATUS CONTROL SECTION
25
BILLING SERVER
COMMUNICATION CONTROL SECTION
61
BILLING DB
62
6
1
USER TERMINAL #1
USER TERMINAL #2

FIG.6

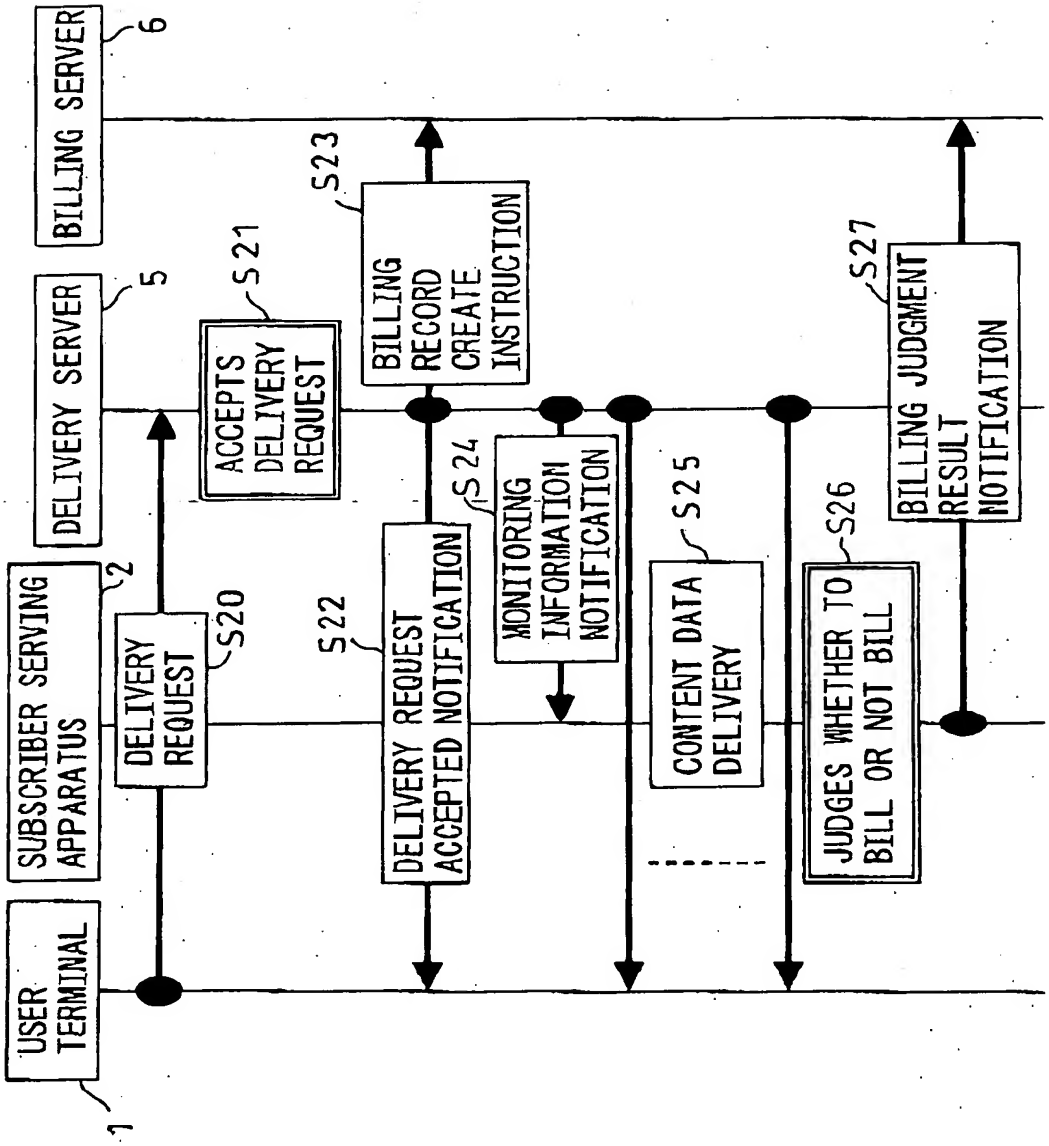
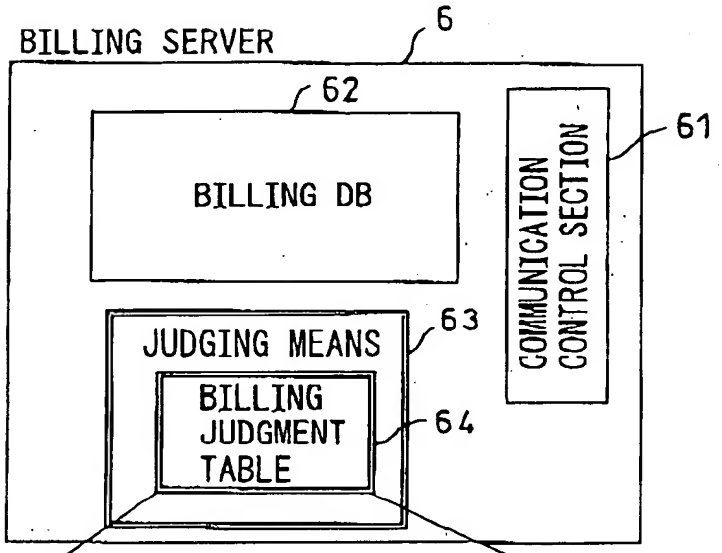

USER TERMINAL
1
SUBSCRIBER SERVING APPARATUS
2
DELIVERY SERVER
5
BILLING SERVER
6
DELIVERY REQUEST
S20
ACCEPTS DELIVERY REQUEST
S21
BILLING RECORD CREATE INSTRUCTION
S23
DELIVERY REQUEST ACCEPTED NOTIFICATION
S22
MONITORING INFORMATION NOTIFICATION
S24
CONTENT DATA DELIVERY
S25
JUDGES WHETHER TO BILL OR NOT BILL
S26
BILLING JUDGMENT RESULT NOTIFICATION
S27

FIG. 7



TYPE OF CONTENT	TYPE OF JUDGING PARAMETER	MONITORED VALUE (X)	MULTIPLIER
A	PACKET ARRIVAL RATE	90%≦X	1
		70≦X<90%	0.8
		50≦X<70%	0.5
		X<50%	0
B	PACKET ARRIVAL RATE WITHIN ALLOWABLE FLUCTUATION TIME	90%≦X	1
		70≦X<90%	0.7
		X<70%	0
⋮			

FIG.8

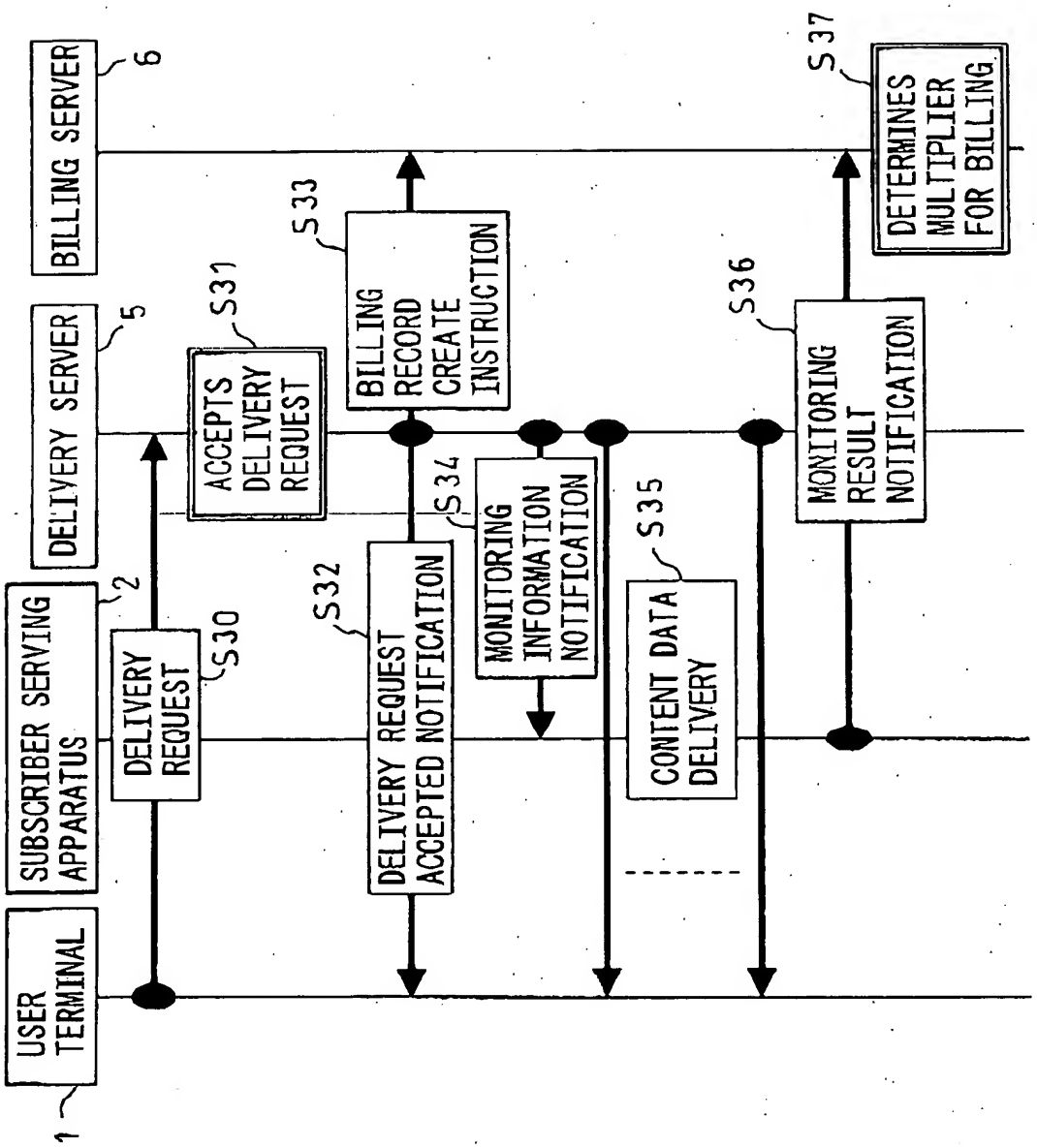
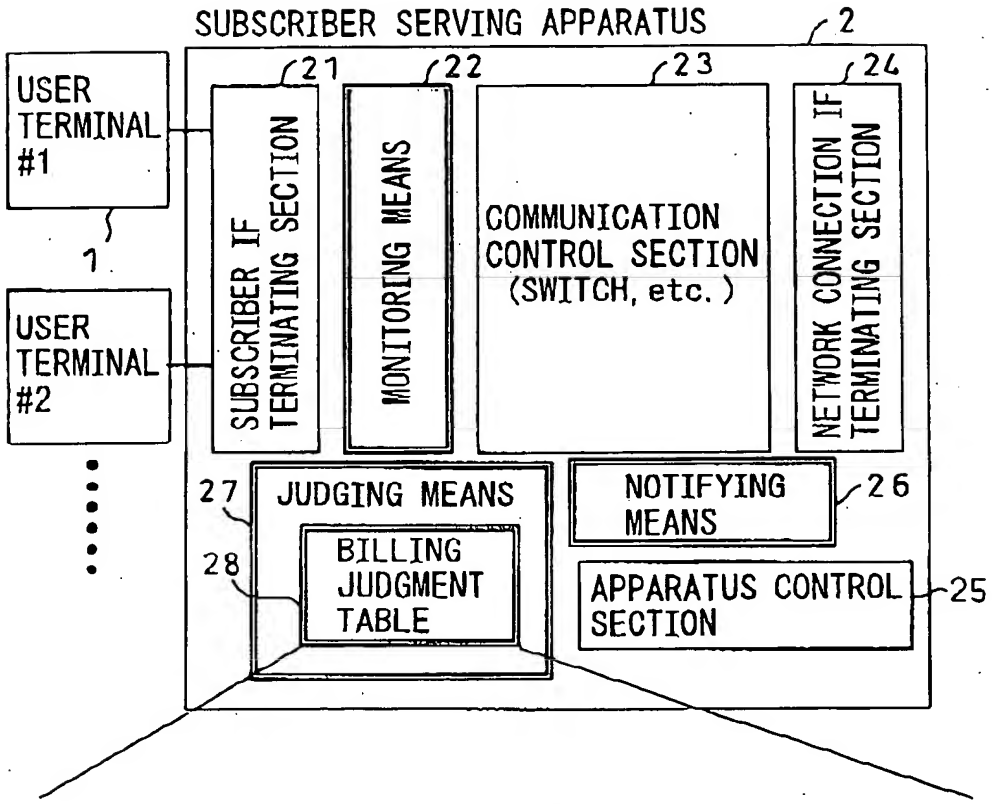

USER TERMINAL
1
SUBSCRIBER SERVING APPARATUS
2
DELIVERY SERVER
5
BILLING SERVER
6
DELIVERY REQUEST
S30
ACCEPTS DELIVERY REQUEST
S31
BILLING RECORD CREATE INSTRUCTION
S33
DELIVERY REQUEST ACCEPTED NOTIFICATION
S32
MONITORING INFORMATION NOTIFICATION
S34
CONTENT DATA DELIVERY
S35
MONITORING RESULT NOTIFICATION
S36
DETERMINES MULTIPLIER FOR BILLING
S37

FIG. 9



TYPE OF CONTENT	TYPE OF JUDGING PARAMETER	MONITORED VALUE (X)	MULTIPLIER
A	PACKET ARRIVAL RATE	$90\% \leq X$	1
		$70 \leq X < 90\%$	0.8
		$50 \leq X < 70\%$	0.5
		$X < 50\%$	0
B	PACKET ARRIVAL RATE WITHIN ALLOWABLE FLUCTUATION TIME	$90\% \leq X$	1
		$70 \leq X < 90\%$	0.7
		$X < 70\%$	0
. . .			

FIG.10

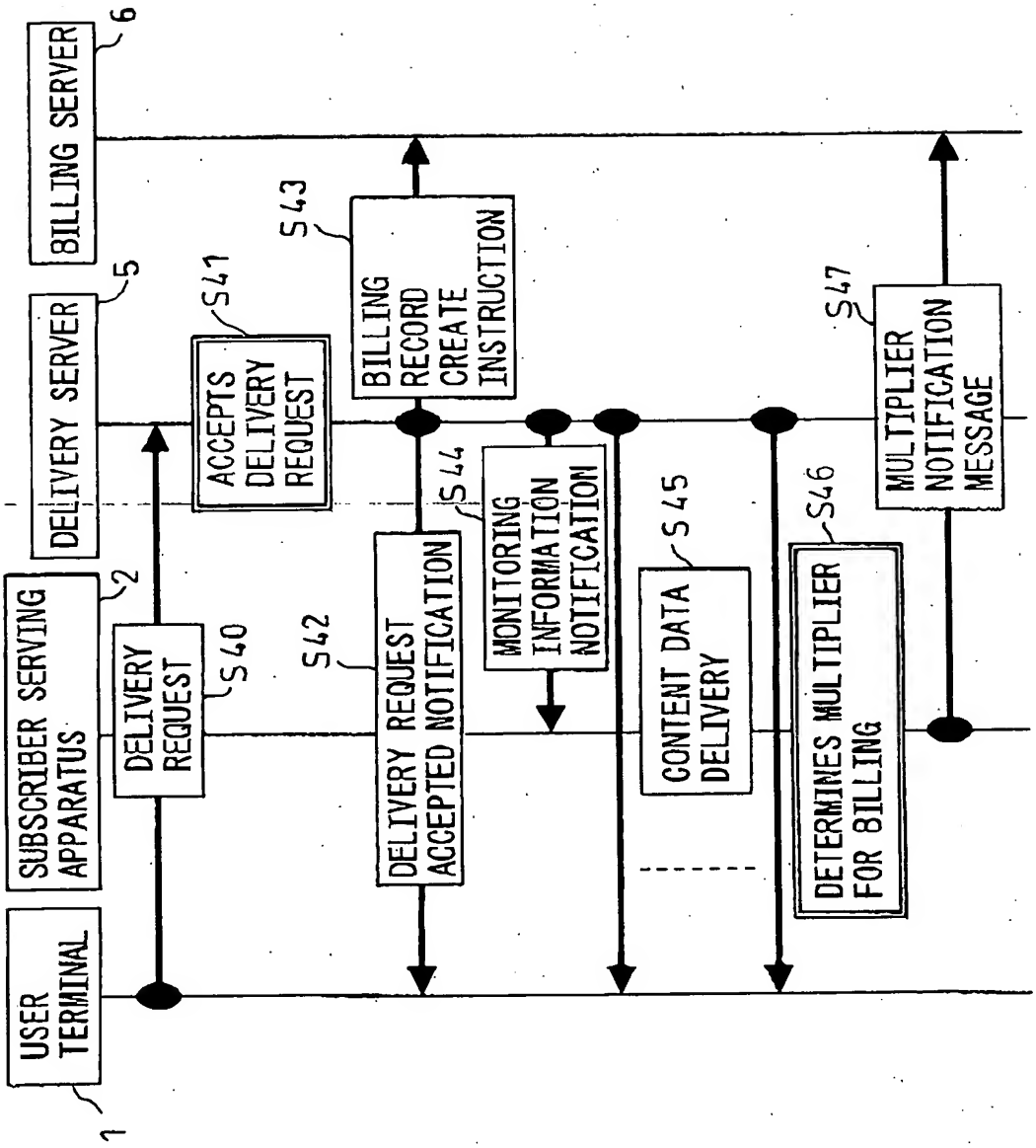

USER TERMINAL
1
SUBSCRIBER SERVING APPARATUS
2
DELIVERY SERVER
5
BILLING SERVER
6
DELIVERY REQUEST
S40
ACCEPTS DELIVERY REQUEST
S41
DELIVERY REQUEST ACCEPTED NOTIFICATION
S42
BILLING RECORD CREATE INSTRUCTION
S43
MONITORING INFORMATION NOTIFICATION
S44
CONTENT DATA DELIVERY
S45
DETERMINES MULTIPLIER FOR BILLING
S46
MULTIPLIER NOTIFICATION MESSAGE
S47

FIG.11

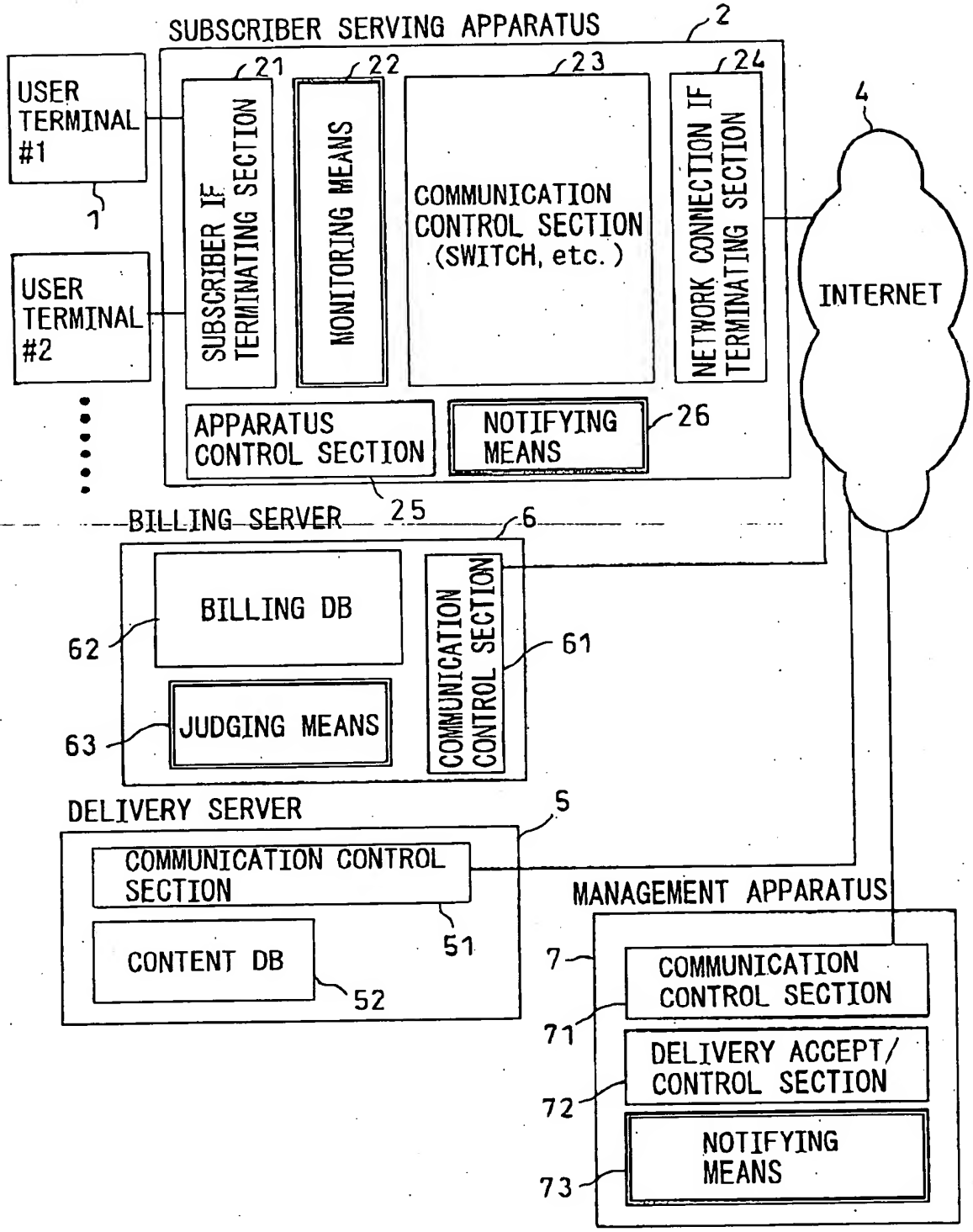
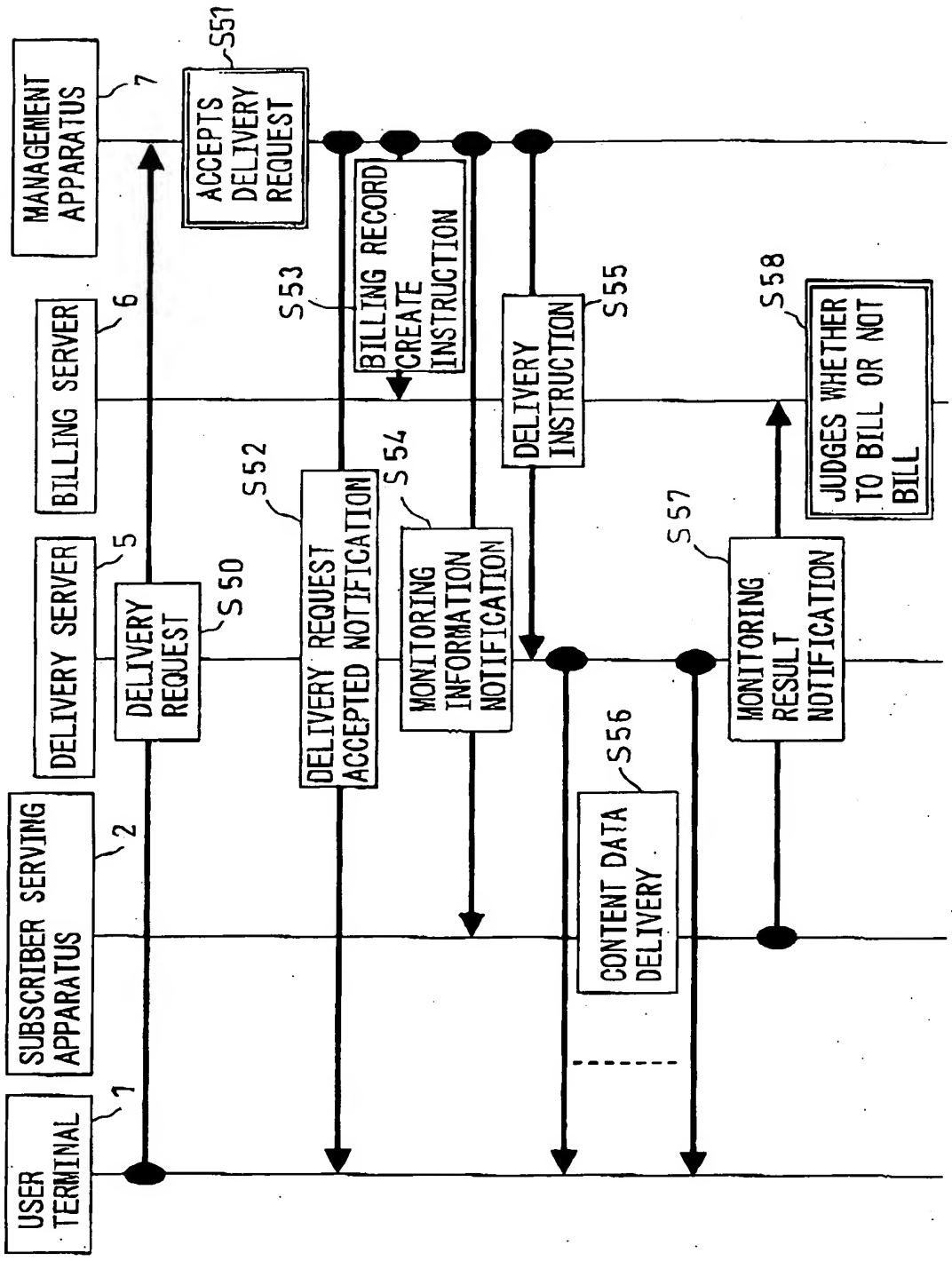

SUBSCRIBER SERVING APPARATUS
2
USER TERMINAL #1
1
USER TERMINAL #2
SUBSCRIBER IF TERMINATING SECTION
21
MONITORING MEANS
22
COMMUNICATION CONTROL SECTION (SWITCH, etc.)
23
NETWORK CONNECTION IF TERMINATING SECTION
24
4
INTERNET
APPARATUS CONTROL SECTION
25
NOTIFYING MEANS
26
BILLING SERVER
6
BILLING DB
62
JUDGING MEANS
63
COMMUNICATION CONTROL SECTION
61
DELIVERY SERVER
5
COMMUNICATION CONTROL SECTION
51
CONTENT DB
52
MANAGEMENT APPARATUS
7
COMMUNICATION CONTROL SECTION
71
DELIVERY ACCEPT/ CONTROL SECTION
72
NOTIFYING MEANS
73

FIG.12


USER TERMINAL
1
SUBSCRIBER SERVING APPARATUS
2
DELIVERY SERVER
5
BILLING SERVER
6
MANAGEMENT APPARATUS
7
DELIVERY REQUEST
S50
ACCEPTS DELIVERY REQUEST
S51
DELIVERY REQUEST ACCEPTED NOTIFICATION
S52
BILLING RECORD CREATE INSTRUCTION
S53
MONITORING INFORMATION NOTIFICATION
S54
DELIVERY INSTRUCTION
S55
CONTENT DATA DELIVERY
S56
MONITORING RESULT NOTIFICATION
S57
JUDGES WHETHER TO BILL OR NOT BILL
S58